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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/403,338 | 10/19/1999 | SEINOSUKE HORIKI | 2710/60471 | 7137 |

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NEW YORK, NY 10036

| EXAMINER | |
|---|---|
| KRUER, KEVIN R | |
| ART UNIT | PAPER NUMBER |
| 1773 | |

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/403,338 | HORIKI ET AL. | |
| | Examiner | Art Unit | |
| | Kevin R. Kruer | 1773 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *20 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,3,5-10,12 and 14* is/are pending in the application.

4a) Of the above claim(s) *9,10 and 12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5-8 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## *DETAILED ACTION*

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 20, 2005 has been entered.

### *Oath/Declaration*

2. Receipt is acknowledged of papers filed under 35 U.S.C. 119 (a)-(d) based on an application filed at the WPO on February 19, 1999. Applicant has not complied with the requirements of 37 CFR 1.63(c), since the oath or declaration does not acknowledge the filing of the PCT application. A new oath or declaration is required in the body of which the present application should be identified by application number and filing date.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP06270329 (herein referred to as Yuka'329), JP07195870 (herein referred to as

Yuka'870, JP08121092 (herein referred to as Yuka'192), or JP05204609 (herein referred to as Yuka'609), in view of Taylor (US 4,292,105).

Yuka'329 teaches a fibrous material impregnated with a sulfomethylated compound of a condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract).

Yuka'870 teaches a sulfomethylated condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract). The resin may be used as a binder in molding fibers, wood chips, and nonwoven fabrics, or as an impregnate or adhesive (page 1 of translation).

Yuka'192 teaches a sulfomethylated condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract). The resin may be used as a binder in molding fibers, wood chips, and nonwoven fabrics, or as an impregnate or adhesive (page 1 of translation).

Yuka'609 teaches a sulfomethylated condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract). The resin may be used as a binder in molding fibers (page 1 of translation).

Yuka '329, Yuka'870, Yuka'192, and Yuka'609 do not teach that the resin should be advanced to the B-stage of curing. However, Taylor teaches a fibrous textile

impregnated with a thermosetting polymer (col 1, lines 10+). Taylor teaches that the polymerization of the thermosetting polymer should be advanced to the B-stage, because the impregnated material can be stored for a reasonable length of time in that state (col 1, lines 18+). Thus, it would have been obvious to one of ordinary skill in the art to cure the resins taught in Yuka '329, Yuka'870, Yuka'192, and Yuka'609 to the B-stage after impregnation in order to obtain a product that could be stored fro a reasonable length of time.

5. Claims 1, 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP06270329 (herein referred to as Yuka'329), JP07195870 (herein referred to as Yuka'870, JP08121092 (herein referred to as Yuka'192), or JP05204609 (herein referred to as Yuka'609), in view of Benzinger (US 3,617,613).

Yuka'329 teaches a fibrous material impregnated with a sulfomethylated compound of a condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract).

Yuka'870 teaches a sulfomethylated condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract). The resin may be used as a binder in molding fibers, wood chips, and nonwoven fabrics, or as an impregnate or adhesive (page 1 of translation).

Yuka'192 teaches a sulfomethylated condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The

phenol aldehyde resin is then cured with an amine compound (abstract). The resin may be used as a binder in molding fibers, wood chips, and nonwoven fabrics, or as an impregnate or adhesive (page 1 of translation).

Yuka'609 teaches a sulfomethylated condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract). The resin may be used as a binder in molding fibers (page 1 of translation).

Yuka '329, Yuka'870, Yuka'192, and Yuka'609 do not teach that the resin should be advanced to the B-stage of curing. However, Benzinger teaches a glass fiber sheet impregnated with a thermosetting resin (abstract). Benzinger teaches that the flow rate of a thermosetting resin can be controlled by polymerizing the polymer to the B stage. Thus, it would have been obvious to one of ordinary skill in the art to cure the resins taught in Yuka '329, Yuka'870, Yuka'192, and Yuka'609 to the B stage in order to control the resin's flow.

6. Claims 1, 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP06270329 (herein referred to as Yuka'329), JP07195870 (herein referred to as Yuka'870, JP08121092 (herein referred to as Yuka'192), or JP05204609 (herein referred to as Yuka'609), in view of Casadevall (US 3,960,626).

Yuka'329 teaches a fibrous material impregnated with a sulfomethylated compound of a condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract).

Yuka'870 teaches a sulfomethylated condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract). The resin may be used as a binder in molding fibers, wood chips, and nonwoven fabrics, or as an impregnate or adhesive (page 1 of translation).

Yuka'192 teaches a sulfomethylated condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract). The resin may be used as a binder in molding fibers, wood chips, and nonwoven fabrics, or as an impregnate or adhesive (page 1 of translation).

Yuka'609 teaches a sulfomethylated condensation polymer. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract). The resin may be used as a binder in molding fibers (page 1 of translation).

Yuka '329, Yuka'870, Yuka'192, and Yuka'609 do not teach that the resin should be cured to the B stage. However, Casadevall teaches that the handlability of fiber impregnated with a phenolic resin can be improved by curing to the B stage. Thus, it would have been obvious to one of ordinary skill in the art to cure the resins taught in Yuka '329, Yuka'870, Yuka'192, and Yuka'609 in order to improve their handlability.

7. Claims 6-8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franz et al. (US 3,922,459) in view of JP06270329 (herein referred to as

Yuka'329), JP07195870 (herein referred to as Yuka'870), JP08121092 (herein referred to as Yuka'192), or JP05204609 (herein referred to as Yuka'609).

Franz teaches a web of fibers impregnated (abstract) with a phenol formaldehyde resin (col 8, line 51). A metal foil may be glued to one or both sides of the impregnated fibers (col 8, lines 32-36).

Franz does not teach that the fibers should be impregnated with the claimed sulfomethylated or sulfomethylated phenolic resin. However, Yuka'329, Yuka'870, Yuka'192, and Yuka'609 each individually teach sulfomethylated condensation polymers. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract). The resin may be used as a binder in molding fibers (page 1 of translation). Such resins have better pot life and better water solubility than phenol formaldehyde resins. Therefore, it would have been obvious to utilize the sulfomethylated phenolic condensation polymers taught in Yuka'329, Yuka'870, Yuka'192, and Yuka'609 in place of the phenolic formaldehyde resin taught in Franz because such sulfomethylated resins have better pot life and water solubility-thus making processing easier.

With regard to claim 14, the metal layer is understood to be the claimed "base sheet," the glue is understood to read on the claimed "adhesive" and the phenolic resin is understood to read on "the cured material." With regard to the limitation that the resin is at least partially sulfomethylated and/or sulfimethylated "at a time when said phenolic resin is at B-stage," the examiner takes the position that the method of making the product does not patentably distinguish a claimed product from a product taught in the prior art unless it can be shown that the method of making a product inherently results

in a materially different product. In the present application, no such showing has been made.

8. Claims 6-8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burke (US 3,619,342) in view of JP06270329 (herein referred to as Yuka'329), JP07195870 (herein referred to as Yuka'870), JP08121092 (herein referred to as Yuka'192), or JP05204609 (herein referred to as Yuka'609).

Burke teaches a corrugated fiberboard which resists deterioration in strength when in the presence of water. The board comprises liner members bonded to either side of a corrugate medium that has been treated with phenol aldehyde resole resin (abstract). The phenol aldehyde resole should have a water solubility such that an aqueous solution comprising 55wt% resin solids can be prepared (col 2, line 75).

Burke does not teach that the medium should be impregnated with the claimed sulfomethylated or sulfimethylated phenolic resin. However, Yuka'329, Yuka'870, Yuka'192, and Yuka'609 each individually teach sulfomethylated condensation polymers. The condensation polymer comprises a phenol and aldehyde and/or aldehyde donor (abstract). The phenol aldehyde resin is then cured with an amine compound (abstract). The resin may be used as a binder in molding fibers (page 1 of translation). Such resins have better pot life and better water solubility than phenol formaldehyde resins. Therefore, it would have been obvious to utilize the sulfomethylated phenolic condensation polymers taught in Yuka'329, Yuka'870, Yuka'192, and Yuka'609 in place of the phenolic formaldehyde resin taught in Burke

because such sulfomethylated resins have better water solubility, thus making it easy to prepare an aqueous solution comprising 55wt% resin solids.

With regard to claim 14, the liner members are understood to be the claimed "base sheet," the adhesive (col 6, lines 6+) is understood to read on the claimed "adhesive" and the phenolic resin is understood to read on "the cured material." With regard to the limitation that the resin is at least partially sulfomethylated and/or sulfimethylated "at a time when said phenolic resin is at B-stage," the examiner takes the position that the method of making the product does not patentably distinguish a claimed product from a product taught in the prior art unless it can be shown that the method of making a product inherently results in a materially different product. In the present application, no such showing has been made.

***Response to Arguments***

Applicant's arguments filed June 20, 2005 have been fully considered but they are not persuasive.

Applicant argues the Yuka references disclose sulfomethylated condensation polymers, but do not disclose that the resin should be advanced to the B-stage of curing. Applicant further notes the Taylor reference contains no suggestion that there is any special advantage of B-stage curing at least partially sulfomethylated and/or sulfimethylated resin. The examiner concurs, but notes that the Yuka references and the Taylor reference were never relied upon for such teachings. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on

combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant further argues the Office provides not rational for the proposition that the teachings of the individual Yuka references should be combined with the teachings of the Taylor reference in the manner required by the applicant's claims. The examiner respectfully disagrees. Taylor teaches that the polymerization of the thermosetting polymer should be advanced to the B-stage, because the impregnated material can be stored for a reasonable length of time in that state (col 1, lines 18+). Thus, the examiner maintains the position that it would have been obvious to one of ordinary skill in the art to cure the resins taught in Yuka '329, Yuka'870, Yuka'192, and Yuka'609 to the B-stage after impregnation in order to obtain a product that could be stored fro a reasonable length of time.

With regard to Casadevali, Applicants argue the reference is not combinable with the Yuka references because it does not disclose a porous material to be molded as in the present invention and does not disclose adding an aldehyde and/or aldehyde donor together with a phenolic resin. The examiner respectfully disagrees with applicant's argument that Casadevali reference is not analogous to the Yuka references. A prior art reference is analogous if the reference is in the field of applicant's endeavor or, if not, the reference is reasonably pertinent to the particular problem with which the inventor was concerned. In the present application, the examiner maintains the position that the Yuka references and Casadevali are analogous because they are both drawn to cured phenolic compositions.

With regard to Benzinger, Applicant argues said reference is not analogous because the thermosetting resin is an epoxy resin, not a phenolic resin. The examiner respectfully disagrees and maintains said references are analogous because they are drawn to the same field of endeavor: a glass fiber sheet impregnated with a thermosetting resin.

With regard to Franz, Applicant's argues the reference is not analogous because it does not teach a phenol formaldehyde and cresol formaldehyde that is at B-stage. The examiner agrees, but notes that the teachings of Franz were not applied to claims wherein the resin is at B-stage. Rather, the resin of claims 6-8 and 14 (the claims rejected under Franz) is taught to be "cured." In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a B-stage resin) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With regard to Burke, Applicant argues the reference does not teach a phenol-aldehyde at B-stage. Burke is currently not applied to claims wherein the resin is at B-stage.

Applicant argues the stability of the phenolic resin is inferior if it is not sulfomethylated or sulfimethylated. However, the Yuka references teach that the sulfomethylation or sulfimethylation of a phenolic resin improves the resins moldability, storage life, and heat resistance. Thus, the data in the specification and Applicant's

response of 9/5/2003 is not considered unexpected since the Yuka references teach that phenolic resins have a longer storage life.

Applicant further argues the advancement of the resin to B-stage improves processability. Said argument is noted but does not patentably distinguish the claimed invention from the prior art because said distinction is not unexpected. Specifically, the various secondary references teach processability of the resin is expected to improve when cure is advanced to a B-stage.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R. Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin R. Kruer Patent Examiner-Art Unit 1773